



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
[www.uspto.gov](http://www.uspto.gov)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/829,689	04/10/2001	Roozbeh Atarius	8194-488	9255
20792	7590	04/05/2004	EXAMINER	
MYERS BIGEL SIBLEY & SAJOVEC PO BOX 37428 RALEIGH, NC 27627			MILLER, BRANDON J	
			ART UNIT	PAPER NUMBER
			2683	5
DATE MAILED: 04/05/2004				

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>
	09/829,689	ATARIUS ET AL.
	<b>Examiner</b>	<b>Art Unit</b>
	Brandon J Miller	2683

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on 26 January 2004.
- 2a) This action is FINAL.                    2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 1-12 and 36-47 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) Claim(s) \_\_\_\_\_ is/are allowed.
- 6) Claim(s) 1-12 and 36-47 is/are rejected.
- 7) Claim(s) \_\_\_\_\_ is/are objected to.
- 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.  
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. §§ 119 and 120

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
 a) All    b) Some \*    c) None of:  
 1. Certified copies of the priority documents have been received.  
 2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 13) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.  
 a) The translation of the foreign language provisional application has been received.
- 14) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

#### Attachment(s)

- |  |  |
|--|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                  | 4) <input checked="" type="checkbox"/> Interview Summary (PTO-413) Paper No(s). <u>9</u> . |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                         | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)                |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) <u>8</u> . | 6) <input type="checkbox"/> Other: _____   |

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1 and 36 are rejected under 35 U.S.C. 102(b) as being anticipated by Kornfeld.

Regarding claim 1 Kornfeld teaches of performing a mobile terminal hand-over (see col. 3, lines 65-67 and col. 4, lines 1-3). Kornfeld teaches establishing concurrent communication connections between the mobile terminal and a plurality of base station transceivers using a plurality of different communications channels (see abstract and col. 4, lines 59-65). Kornfeld teaches respective ones of the plurality of base station transceivers are associated with respective ones of the plurality of different communication channels (see abstract, col. 4, lines 59-65, and col. 6, lines 47-52).

Regarding claim 36 Kornfeld teaches performing a mobile terminal hand-over (see col. 3, lines 65-67 and col. 4, lines 1-3). Kornfeld teaches establishing concurrent communication connections between the mobile terminal and a plurality of base station transceivers using a plurality of different communications channels (see abstract and col. 4, lines 59-65). Kornfeld teaches respective ones of the plurality of base station transceivers are associated with respective ones of the plurality of different communication channels (see abstract, col. 4, lines 59-65, and col. 6, lines 47-52).

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 2, 4-7, 9-12, 37, 39-42, and 44-47 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kornfeld in view of Chen.

Regarding claim 2 Kornfeld teaches a device as recited in claim 1 except for a plurality of different communication channels that comprise at least one communication channel associated with a first communication band of contiguous communications channels and at least one communication channel associated with a second communication band of contiguous communication channels. Kornfeld does teach a plurality of different communication channels (see col. 4, lines 4, lines 59-65). Chen teaches a plurality of different communication channels that comprise at least one communication channel associated with a first communication band of contiguous communications channels and at least one communication channel associated with a second communication band of contiguous communication channels (see col. 8, lines 2-11). It would have been obvious to one of ordinary skill in the art at the time the invention was made to make the invention adapt to include a plurality of different communication channels that comprise at least one communication channel associated with a first communication band of contiguous communications channels and at least one communication channel associated with a second communication band of contiguous communication channels because this would allow

for a more efficient soft handoff between a plurality of frequencies that are received from a plurality of base stations.

Regarding claim 4 Chen teaches a plurality of different communication channels that is associated with a communication band of contiguous communication channels (see col. 8, lines 2-11).

Regarding claim 5 Kornfeld teaches establishing concurrent communication connections between the mobile terminal and a plurality of base station transceivers using a plurality of different communications channels (see abstract and col. 4, lines 59-65). Kornfeld teaches detecting a plurality of signals received from the plurality of base station transceivers, wherein respective ones of the plurality of received signals are associated with respective ones of the plurality of base station transceivers (see col. 6, lines 49-55). Kornfeld does not specifically teach sampling the communication band of contiguous communication channels at the mobile terminal, or concurrently demodulating the detected plurality of signals received from the plurality of base station transceivers. Chen teaches sampling channels at the mobile terminal to detect a plurality of signals received from the plurality of base station transceivers (see col. 5, lines 35-43). Chen teaches concurrently demodulating the detected plurality of signals received from a plurality of base station transceivers (see col. 4, lines 11-15 & 19-23). It would have been obvious to one of ordinary skill in the art at the time the invention was made to make the device adapt to include sampling the communication band of contiguous communication channels at the mobile terminal, or concurrently demodulating the detected plurality of signals received from the plurality of base station transceivers because this would allow for an improved mobile

communication system in which a mobile station can receive and demodulate signals transmitted on more than one frequency.

Regarding claim 6 Kornfeld teaches filtering signals received by the mobile terminal using a band pass filter that passes desired frequencies (see col. 5, lines 62-67 and col. 6, lines 64-67). Kornfeld does not specifically teach using a band pass filter that passes frequencies corresponding to the communication band of contiguous communication channels before sampling the communication band of contiguous communication channels at the mobile terminal. Chen teaches filtering signals using a band pass filter that passes frequencies corresponding to the communication band of contiguous communication channels (see col. 4, lines 3-23). Chen teaches sampling channels at the mobile terminal to detect a plurality of signals received from the plurality of base station transceivers (see col. 5, lines 35-43). It would have been obvious to one of ordinary skill in the art at the time the invention was made to make the device adapt to include using a band pass filter that passes frequencies corresponding to the communication band of contiguous communication channels before sampling the communication band of contiguous communication channels at the mobile terminal because this would allow for an improved mobile communication system in which a mobile station can receive and demodulate signals transmitted on more than one frequency.

Regarding claim 7 Kornfeld teaches establishing concurrent communication connections between the mobile terminal and a plurality of base station transceivers using a plurality of different communications channels (see abstract and col. 4, lines 59-65). Kornfeld teaches filtering signals received by the mobile terminal using a band pass filter that passes desired frequencies (see col. 5, lines 62-67 and col. 6, lines 64-67). Kornfeld teaches stepping down

signals received by the mobile terminal and passed by a band pass filter from frequencies corresponding to intermediate frequencies (see col. 5, lines 45-50 & 55-64). Kornfeld teaches detecting a plurality of signals received from the plurality of base station transceivers, wherein respective ones of the plurality of received signals are associated with respective ones of the plurality of base station transceivers (see col. 6, lines 49-55). Chen teaches sampling intermediate frequencies at the mobile terminal to detect a plurality of signals received from the plurality of base station transceivers (see col. 5, lines 35-43). Chen teaches concurrently demodulating the detected plurality of signals received from a plurality of base station transceivers (see col. 4, lines 11-15 & 19-23).

Regarding claim 9 Kornfeld teaches establishing concurrent communication connections between the mobile terminal and a plurality of base station transceivers using a plurality of different communications channels (see abstract and col. 4, lines 59-65). Kornfeld teaches respective ones of the plurality of received signals that are associated with respective ones of the plurality of base station transceivers (see col. 6, lines 49-55). Kornfeld teaches concurrently transmitting a plurality of signals from the mobile terminal to the plurality of base station transceivers, wherein respective ones of the transmitted signals are associated with respective ones of the plurality of base station transceiver (see abstract and col. 4, lines 59-65). Chen teaches concurrently demodulating the detected plurality of signals received from a plurality of base station transceivers (see col. 4, lines 11-15 & 19-23).

Regarding claim 10 Kornfeld teaches concurrently stepping down respective ones of the plurality of signals received from the plurality of base station transceivers, which respectively correspond to the plurality of different communication channels (see col. 9, lines 40-48).

Art Unit: 2683

Kornfeld teaches concurrently transmitting a plurality of signals from the mobile terminal to the plurality of base station transceivers (see abstract and col. 4, lines 59-65). Kornfeld teaches concurrently stepping up respective ones of a plurality of information signals, which respectively correspond to the plurality of different communication channels (see col. 9, lines 31-38).

Kornfeld does not specifically teach concurrently demodulating the detected plurality of signals received from a plurality of base station transceivers, a plurality of non-base band frequencies that respectively correspond to the plurality of different communication channels, or a base band frequency. Chen teaches concurrently demodulating the detected plurality of signals received from a plurality of base station transceivers (see col. 4, lines 11-15 & 19-23). Chen teaches a plurality of non-base band signals that are respectively mixed to base band signals (see col. 6, lines 2-4). It would have been obvious to one of ordinary skill in the art at the time the invention was made to make the device adapt to include concurrently demodulating the detected plurality of signals received from a plurality of base station transceivers, a plurality of non-base band frequencies that respectively correspond to the plurality of different communication channels, and a base band frequency because this would allow for efficient communication over multiple frequencies, thus permitting a mobile radio to perform a soft hand-off between frequencies.

Regarding claim 11 Kornfeld teaches concurrently stepping down respective ones of the plurality of signals received from the plurality of base station transceivers, which respectively correspond to the plurality of different communication channels, to an intermediate frequency (see col. 5, lines 45-50). Kornfeld does not specifically teach a plurality of non-base band frequencies that respectively correspond to the plurality of different communication channels, or a base band frequency. Chen teaches a plurality of non-base band signals that are respectively

Art Unit: 2683

mixed to base band signals (see col. 6, lines 2-4). It would have been obvious to one of ordinary skill in the art at the time the invention was made to make the device adapt to include a plurality of non-base band frequencies that respectively correspond to the plurality of different communication channels, and a base band frequency because this would allow for efficient communication over multiple frequencies, thus permitting a mobile radio to perform a soft hand-off between frequencies.

Regarding claim 12 Kornfeld teaches concurrently stepping up respective ones of a plurality of information signals, which respectively correspond to the plurality of different communication channels (see col. 9, lines 31-38). Kornfeld teaches converting respective ones of the plurality of information signals to an intermediate frequency (see col. 45-48). Kornfeld does not specifically teach stepping up information signals from the base band frequency to a plurality of non-base band frequencies, or stepping up information signals from the intermediate frequency to the plurality of non-base band frequencies. Chen teaches a plurality of non-base band signals that are respectively mixed to base band signals (see col. 6, lines 2-4). It would have been obvious to one of ordinary skill in the art at the time the invention was made to make the device adapt to include stepping up information signals from the base band frequency to a plurality of non-base band frequencies, and stepping up information signals from the intermediate frequency to the plurality of non-base band frequencies because this would allow for efficient communication over multiple frequencies, thus permitting a mobile radio to perform a soft hand-off between frequencies.

Regarding claim 37 Kornfeld and Chen teach a device as recited in claim 2 and is rejected given the same reasoning as above.

Regarding claim 39 Kornfeld and Chen teach a device as recited in claim 4 and is rejected given the same reasoning as above.

Regarding claim 40 Kornfeld and Chen teach a device as recited in claim 5 and is rejected given the same reasoning as above.

Regarding claim 41 Kornfeld and Chen teach a device as recited in claim 6 and is rejected given the same reasoning as above.

Regarding claim 42 Kornfeld and Chen teach a device as recited in claim 7 and is rejected given the same reasoning as above.

Regarding claim 44 Kornfeld and Chen teach a device as recited in claim 9 and is rejected given the same reasoning as above.

Regarding claim 45 Kornfeld and Chen teach a device as recited in claim 10 and is rejected given the same reasoning as above.

Regarding claim 46 Kornfeld and Chen teach a device as recited in claim 11 and is rejected given the same reasoning as above.

Regarding claim 47 Kornfeld and Chen teach a device as recited in claim 12 and is rejected given the same reasoning as above.

Claims 3 and 38 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kornfeld in view of Chen and Sutton.

Regarding claim 3 Kornfeld and Chen teaches a device as recited in claim 2 except wherein a first communication band of contiguous communication channels comprise a code division multiple access (CDMA) 800MHz communication band, and the second communication band of contiguous communication channels comprises a CDMA 1900 MHz communication

band. Sutton teaches a first communication band comprise a code division multiple access (CDMA) 800MHz communication band, and the second communication bad comprises a CDMA 1900 MHz communication band (see col. 4, lines 17-23). It would have been obvious to one of ordinary skill in the art at the time the invention was made to make the device adapt to include a first communication band of contiguous communication channels comprise a code division multiple access (CDMA) 800MHz communication band, and the second communication bad of contiguous communication channels comprises a CDMA 1900 MHz communication band because this would allow for a more efficient soft handoff between a plurality of frequencies that are received from a plurality of base stations.

Regarding claim 38 Kornfeld, Chen, and Sutton teach a device as recited in claim 3 and is rejected given the same reasoning as above.

Claims 8 and 43 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kornfeld in view of Chen and Yano.

Regarding claim 8 Kornfeld and Chen teach a device as recited in claim 1 except for wherein the mobile terminal is associated with an original one of the plurality of base station transceivers; selecting one of the plurality of base station transceivers other than the one of the plurality of base station transceivers with which the mobile terminal is associated; creating a new association between the mobile terminal and the selected one of the plurality of base station transceivers; then destroying the association between the mobile terminal and the original one of the plurality of base station transceivers. Yano teaches a mobile terminal that is associated with an original one of a plurality of base station transceivers; selecting one of the plurality of base station transceivers other than the one of the plurality of base station transceivers with which the

mobile terminal is associated; creating a new association between the mobile terminal and the selected one of the plurality of base station transceivers; then destroying the association between the mobile terminal and the original one of the plurality of base station transceivers (see col. 15, lines 65-67 and col. 16, lines 1-7). It would have been obvious to one of ordinary skill in the art at the time the invention was made to make the device adapt to include wherein the mobile terminal is associated with an original one of the plurality of base station transceivers; selecting one of the plurality of base station transceivers other than the one of the plurality of base station transceivers with which the mobile terminal is associated; creating a new association between the mobile terminal and the selected one of the plurality of base station transceivers; then destroying the association between the mobile terminal and the original one of the plurality of base station transceivers because this would allow for an improved mobile communication system in which a multiple band mobile station can switch between frequencies that are received from a plurality of base stations.

Regarding claim 43 Kornfeld, Chen, and Yano teach a device as recited in claim 8 and is rejected given the same reasoning as above.

### *Conclusion*

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Andrews U.S Patent No. 5,649,308 discloses multiformat auto-handoff communications handset.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brandon J Miller whose telephone number is 703-305-4222. The examiner can normally be reached on Mon.-Fri. 8:00 am to 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, William Trost can be reached on 703-308-5318. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

\*\*\*

March 31, 2004



WILLIAM TROST  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2600